THE NEARCTIC DORYCTINAE, VIII. THE GENERA LIOBRACON AND PEDINOTUS, WITH NOTES ON THE DEFINITION OF THE SUBFAMILY (HYMENOPTERA: BRACONIDAE)

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ABSTRACT—The genera *Liobracon* Szépligeti and *Pedinotus* Szépligeti are recorded for the first time in North America. *Liobracon* **aquilonius**, n. sp., is described from Texas, Mexico and Guatemala; *Pedinotus ferrugineus* (Enderlein) is described from Texas and Mexico. New synonymy noted: *Liobracon* (= *Hyboderia* Enderlein and *Triderodon* Enderlein); *Pedinotus* (= *Goniogmus* Enderlein).

The species described below represent the first records of the Neotropical genera *Liobracon* Szépligeti and *Pedinotus* Szépligeti for the Nearctic Region. The inclusion of *Liobracon* in the Doryctinae requires some modification of my previous definition of the subfamily (Marsh, 1965) which included the presence of the occipital carina as a distinguishing character. All species of *Liobracon* have the occipital carina absent which would place them in the Braconinae; but, since they have all the other essential characters of the Doryctinae, it appears that the presence or absence of the occipital carina is not a good subfamily feature. The characters that appear to be most reliable in separating these subfamilies are the number of segments in the maxillary palpi and whether or not the prepectus is margined. In the Doryctinae the maxillary palpi are 6-segmented and the prepectus is always margined; in the Braconinae the maxillary palpi are 5-segmented and the prepectus is never margined. The genera of the Doryctinae which do not have an occipital carina are *Liobracon* (Neotropical, Nearctic), *Binarea* Brullé (Neotropical), and *Liodoryctes* Szépligeti (Australian). In a few other genera there are species that have the occipital carina partially absent.

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Liobracon Szépligeti

Liobracon Szépligeti, 1901, p. 361. Type-species: *Liobracon singularis* Szépligeti, in Hungarian Natural History Museum, Budapest. Monotypic.

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Parabinarea Brues, 1912, p. 210. Type-species: *Parabinarea manni* Brues, in Museum of Comparative Zoology, Harvard. Monotypic. Synonymy by Roman, 1924.

Hyboderia Enderlein, 1920, p. 134. Type-species: *Hyboderia collare* Enderlein, in Polish Academy of Sciences, Warsaw. Monotypic. **New synonymy.**

Triderodon Enderlein, 1920, p. 136. Type-species: *Triderodon hoffmannsi* Enderlein, in Polish Academy of Sciences, Warsaw. Monotypic. **New synonymy.**

Head cubical; occipital carina absent, occiput deeply excavated; proepisternum without tubercles; fore wing with recurrent vein entering first cubital cell; hind wing with first segment of mediella at least twice as long as second segment, second segment of mediella shorter than basella, radiellen cell divided by a weak spurious vein at basal ⅓ (fig. 2); hind femora short and broad.

I have seen the holotypes of *Liobracon singularis*, *Parabinarea manni*, *Hyboderia collare*, and *Triderodon hoffmannsi* and they are all congeneric; furthermore, *L. singularis* and *H. collare* are the same as *Syngaster macula* Brullé, 1846, the holotype of which I have also seen (Muséum National d'Histoire Naturelle, Paris). Szépligeti (1904) was the first to synonymize *L. singularis* with S. *macula*. Enderlein described *H. collare* from two females and one male from Mendoza, Argentina; the male and one female are labeled "Type" and the other female is labeled "Co-type" but he did not designate a single holotype specimen. I have designated the female which is labeled "Type" as the lectotype and labeled it thus.

Liobracon is very similar to the Neotropical genus *Binarea*, but differs by the lack of tubercles on the proepisternum, the shorter first abdominal tergum, the distinct sternaulus (nearly absent in *Binarea*), and the swollen hind femora. It is also similar to *Doryctes* Haliday but differs from this and all other Nearctic genera by the divided radiellen cell of the hind wing.

Fourteen species are referred to *Liobracon*, 13 from the Neotropical Region and one from the Nearctic Region, described as new below.

Liobracon aquilonius, n. sp.
(Figs. 2, 3, 5)

Female.—Length of body, 11–12 mm.; ovipositor, 4–6 mm. Head, pro- and mesothorax and legs black; metathorax, propodeum, and abdomen red; middle mesonotal lobe sometimes red; legs sometimes brown or lighter. Head broad; frons, vertex, and temples smooth; face coarsely rugose; antennal insertions prominent, separated by a deep groove; crenulate grooves extending along anterior margin of eyes from antennal insertions to base of mandibles and across face from antennal insertions to anterior tentorial pits; clypeus prominent, rugose; anterior tentorial pits deep; face covered with long silvery hair which is longer than first flagellar segment; frons slightly excavated; malar space about ½ eye height; temples broad; antennae 55 to 60-segmented, scape excavated anteriorly at apex. Proepisternum punctate anteriorly; prothorax smooth, pronotum swollen medially and with a deep transverse excavation between it and mesonotum which

extends laterally on each side of propleuron as propleural groove; mesonotal lobes and scutellar disc smooth; notauli smooth, shallow, two converging carinae at junction of notauli (fig. 3); scutellar furrow shallow, with one median carina; mesopleural disc and mesosternum smooth; sternaulus smooth, shallow, ending in a wide pit before middle coxa; subalar groove shallow, smooth; propodeum nearly horizontal, gradually declivous posteriorly, smooth laterally, with very large shallow punctures or areolae dorsally, median longitudinal carina forked at apical ½; thorax with dense silvery hair on ventrolateral corner of propleuron and along subalar groove, metapleuron and ventrolateral margin of propodeum. Hind femora about 2.5 times as long as wide. Wings dusky, venation as in fig. 2; inner side of stigma shorter than outer, nervulus interstitial with basal vein, radiella divided by a weak spurious vein, first segment of mediella of hind wing more than twice as long as second segment, second segment of mediella as long as nervellus and shorter than basella. First abdominal tergum slightly wider than long, parallel sided, nearly square, longitudinally striate, smooth medially at base; tergum (2 + 3) sculptured as in fig. 5; remainder of terga smooth, each with a short median longitudinal carina at base; ovipositor nearly as long as abdomen.

Male.—Essentially as in female; abdominal terga 1 to 5 longitudinally striate; fore and middle legs, hind tibia, and tarsus black; hind coxa, trochanters, and femur red.

Holotype Female.—TEXAS: Uvalde, 11-2-31, R. A. Roberts collector, Bishopp no. 17310. U. S. National Museum type number 70854.

Paratypes.—TEXAS: Fresno, 1 ♀, 10-6, Collection Ashmead; Brownswood, 1 ♂, 4-4-32, C. B. Nickels colr., Quaint. no. 27932; Hildago Co., 1 ♀, S. Bromley colr.; Brownsville, 1 ♀ (in auto from Mexico), 3 ♂♂, 8-4-44, I. Sheller, flying about mesquite wood. MEXICO: Amula, Guerrero, 1 ♀; 5 mi N Mazatlan, Sin., 1 ♂, VIII-5-7-64, J. E. H. Martin. GUATEMALA: no locality, 1 ♀.

This species is similar to *distinctus* (Cresson) from Cuba but differs in the more black coloration, coarsely sculptured abdomen, prothorax, and propodeum, and by being more densely hairy on the thorax.

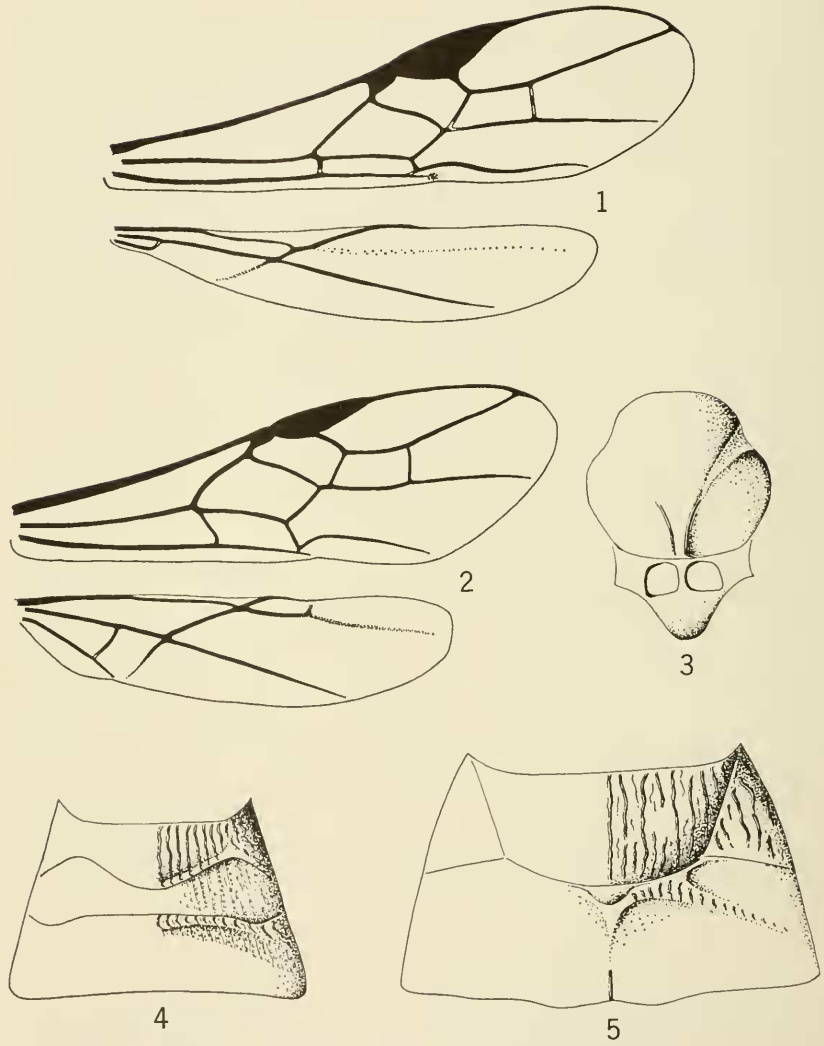
Pedinotus Szépligeti

Pedinotus Szépligeti, 1902, p. 56. Type-species: *Pedinotus brasiliensis* Szépligeti, in Hungarian Natural History Museum, Budapest. Monotypic.

Goniogmus Enderlein, 1920, p. 139. Type-species: *Goniogmus ferrugineus* Enderlein, in Polish Academy of Sciences, Warsaw. Monotypic. **New synonymy.**

Head subcubical; mesonotum sharply declivous anteriorly; recurrent vein of fore wing entering extreme apex of first cubital cell, nearly interstitial with first intercubitus (fig. 1); first brachial cell closed at apex; radiellen cell of hind wing weak or absent; basella short; first segment of mediella less than ½ second segment; abdominal tergum (2 + 3) with a broadly sinuate transverse groove at basal ⅓ and a straight groove at apical ⅓ (fig. 4).

I have seen the holotypes of *P. brasiliensis* and *G. ferrugineus* and they are definitely congeneric.



Figs. 1 & 4, *Pedinotus ferrugineus* (End.): 1, fore and hind wings; 4, abdominal tergum (2 + 3), dorsal view. Figs. 2, 3, & 5, *Liobracon aquilonius*, n. sp.: 2, fore and hind wings; 3, mesonotum, dorsal view; 5, abdominal tergum (2 + 3), dorsal view.

Pedinotus is similar to *Leluthia* Cameron in the sculpturing on abdominal tergum (2 + 3) but it is easily distinguished by the wing venation. Three species are included in *Pedinotus*; two strictly Neotropical and one, described below, extending into the southern United States.

Pedinotus ferrugineus (Enderlein), n. comb.
(Figs. 1, 4)

Goniogmus ferrugineus Enderlein, 1920, p. 139. Holotype female, in Polish Academy of Sciences, Warsaw.

Female.—Length of body, 5–6 mm.; ovipositor, 2–2.5 mm. Color orange; legs brown or black; head and mesonotum sometimes marked with black. Vertex and temples smooth; frons finely striate; face rugose, swollen below antennae; malar space slightly less than ½ eye height; temples about ¾ eye width; antennae 36-segmented; ocellocular distance about three times length of lateral ocellus. Pronotum short; propleural groove crenulate, rest of propleuron weakly rugulose; proepisternum smooth; mesonotum sharply declivous anteriorly; mesonotal lobes smooth, median lobe slightly impressed anteriorly in middle; notauli sharply defined anteriorly, crenulate, obscured posteriorly by triangular rugose area; scutellar furrow with 3–5 carinae; scutellar disc with a few scattered punctures; mesopleural disc and mesosternum smooth; subalar groove wide, shallow, rugulose; sternaulus very shallow, smooth; propodeum rugose laterally and apically, basolateral area somewhat smoother, carinae usually distinct, two sets of lateral carinae present. Wing venation as in fig. 1; first brachial cell closed at apex. First abdominal tergum slightly wider at apex than long, rugose; tergum (2 + 3) with one bisinuate transverse groove on basal ⅓ and one straight groove on apical ⅓, striatorugose on basal ⅓, striatogranular on apical ⅔ (fig. 4); terga 4–6 granulate, excavated basally; ovipositor about ⅔ length of abdomen.

Male.—Unknown.

Type Locality.—Chiapas, Mexico.
Distribution.—Texas; Mexico.

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